Original

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Amendment of the Parts 74, 78, and 101 of the Commission's Rules to Adopt More Flexible Standards For Directional Microwave Antennas	)	ET Docket No. 96-35

COMMENTS OF THE NATIONAL SPECTRUM MANAGERS ASSOCIATION

The National Spectrum Managers Association ("NSMA") hereby submits the following comments in response to the Notice of Proposed Rulemaking in the above-captioned proceeding.[1/] The NPRM proposes to modify the Commission's fixed service microwave rules to accommodate new technologies for directional antennas, and solicits comments on issues relating to the proposed rule changes.

I. SUMMARY

NSMA supports the Commission's efforts to anticipate and accommodate new antenna technologies for fixed service microwave applications. Based on its review of the NPRM, NSMA is concerned that the above-captioned rulemaking may result in the

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[1/] See Notice of Proposed Rulemaking; ET Docket No. 96-35; FCC 96-80 (released March 14, 1996) (the "NPRM").

Commission allowing fixed service microwave operators to substitute "default" standardized antenna radiation patterns in lieu of actual radiation patterns for use in frequency coordination and application processing. Adoption of this proposal would substantially reduce the effectiveness of the prior coordination process, likely result in reduced spectral efficiency, and, thus, would not serve the public interest. Accordingly, NSMA urges the Commission to adopt rules in this rulemaking that maintain the requirement that applicants actually provide antenna-specific information, including radiation patterns where required, in prior coordination notices ("PCNs") and in any resulting applications filed before the Commission.

II. BACKGROUND

Consistent with its organizational mandate, NSMA's comments focus on rule alterations proposed in the NPRM as they impact the frequency coordination process.[2/] As the leading industry association representing the interests of spectrum managers and frequency coordinators, NSMA is well-suited to offer comments on this subject.

Formed in 1984, NSMA is a non-profit association dedicated to developing consensus industry recommendations for the conduct of frequency coordination among commercial and private FCC applicants, permittees and licensees engaged in the provision of a broad range of fixed and mobile services. NSMA is an open organization, providing a forum to all parties interested in developing workable and efficient procedures to facilitate effective frequency coordination, while minimizing the resulting burden on affected spectrum

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[2/] See NPRM at para. 8.

users. NSMA invites the participation of all members of industry interested in furthering these objectives.

Since its inception, NSMA has published over fifty-five (55) industry consensus recommendations and reports, and is currently developing numerous others on an ongoing basis through its Working Group process. All NSMA recommendations and reports are updated as regulatory and industry conditions warrant, and address in detail guidelines and/or technical information intended to improve and streamline frequency coordination procedures for designated fixed or mobile radio service operations. As a result of its long history, NSMA has substantial knowledge and expertise with respect to frequency coordination matters, and is widely recognized as the leading industry organization responsible for the development and promulgation of recommendations designed to facilitate effective and streamlined notification and frequency coordination procedures.

It should also be noted that NSMA works closely with the Telecommunications Industry Association ("TIA") in developing industry consensus with regard to technical standards relating to frequency coordination matters. Since 1992, NSMA has participated jointly with TIA Committee TR 14-11 in the ongoing refinement of TIA Bulletin TSB-10, "Interference Criteria For Microwave Systems" ("Bulletin 10"), as that document has evolved from a guideline for interference computations for the private microwave industry to a far broader technical reference for the private, common carrier and PCS industries. NSMA was also instrumental, along with TIA, in providing industry input to the Commission's efforts in

WT Docket 94-148 and CC Docket No. 93-2 to consolidate current Rule Parts 21 and 94 into the recently adopted new Part 101.[3/]

Among other things, NSMA served as a leading industry voice in developing recommendations for the revised application content and frequency coordination provisions contained in the newly adopted Part 101. As a result of the efforts of NSMA and others, the pre-existing Part 21 requirements for inclusion of antenna-specific radiation pattern information, or appropriate reference thereto, in applications and PCNs were reaffirmed and retained by the Commission in the new part 101.[4/]

III. THE COMMISSION SHOULD CONTINUE TO REQUIRE THE USE OF ANTENNA-SPECIFIC RADIATION PATTERNS IN THE FREQUENCY COORDINATION PROCESS

The NPRM proposes amendments to parts 74, 78 and 101 of the Commission's rules to allow directional antennas to comply with either minimum antenna gain or maximum beamwidth requirements.[5/] Of particular interest to NSMA, the NPRM recognizes that some new antenna designs, such as planar arrays, may have beam shapes that vary from conventional antennas, and seeks comment on a proposal to require frequency coordinators to treat every antenna as if its radiation mask were identical to a "conventional" parabolic

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[3/] See Report and Order, WT Docket No. 94-148, CC Docket No. 93-2, RM-7861, FCC 96-51 (released February 29, 1996) ("Part 101 Order"). As a result of the concerted joint efforts of TIA, NSMA and others, Part 101 incorporates Bulletin 10 by reference as the FCC-recognized standard for frequency coordination and interference computation procedures. Part 101 Order, at para. 65.

[4/] See Part 101 Order, at Appendix A (47 C.F.R. §§ 101.21(d)&(e) & 101.103(d)(2)(ii)).

[5/] NPRM, at para. 6.

dish antenna.[6] NSMA opposes this proposal and urges the Commission not to deviate from its current rules which require that applicants always provide proper reference to actual radiation pattern information in PCNs and applications. These requirements should be maintained regardless of the type of antenna proposed for a given deployment.

Having actual antenna radiation mask data available to frequency coordinators is essential to ensure accuracy in interference computations and to maximize spectral efficiency. The frequency coordination community regularly utilizes actual antenna radiation patterns in analyzing potential interference that could arise from operations proposed in a PCN. Allowing or requiring parties filing applications or circulating PCN's to specify a "default" antenna pattern(s) based on the antenna performance standards set forth in the Commission's rules, as proposed in the NPRM, will lead to less accurate computations and ultimately result in inefficient use of the scarce spectrum resource. Use of "default" radiation patterns could also lead to the deployment of undocumented antenna designs that fail to comply with the Commission's minimum sidelobe suppression standards, a result that is explicitly not desired by the Commission.[7]

Many available fixed service microwave antennas yield sidelobe suppression values that exceed the minimum sidelobe suppression baselines set forth in Section 101.115 and related sections of the Commission's rules. Even if all antennas used for fixed service

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[6] Id., at para. 8.

[7] See NPRM, at para. 6. Type Acceptance, Type Approval and other equipment procedures set forth in Part 2 of the Commission's rules are not applied to antennas. Absent a requirement that actual antenna patterns be made available in the prior coordination and application stages, there does not appear to be any other viable system for the Commission or affected private sector parties to verify before deployment that antennas fielded for use in fixed service microwave systems actually comply with the minimum antenna performance standards set forth in the Commission's rules.

microwave applications meet one of the two standards set forth in the new Section 101.115, forcing coordinators to assume these standards for interference analysis purposes will lead to unnecessary geographic separation between systems utilizing antennas that exceed the standards.[8/] Any increased performance or operational agility afforded by advanced antenna designs must be fully accounted for in the frequency coordination process.

Given the definite potential for decreased spectrum efficiency, there does not appear to be any reasonable justification for altering the reaffirmed and updated coordination procedures and application content requirements set forth in the recently adopted Sections 101.21 and 101.103. Moreover, there does not appear to be any undue burden involved in requiring applicants to continue the practice of providing or making appropriate reference to complete antenna-specific beam pattern information, even if new antenna technologies and designs are to be employed in a proposed system.[9/] Taking all of these facts and circumstances into account, it is clear that regulating an abandonment of the established practice of analyzing actual antenna characteristics to determine compatibility between proposed fixed service microwave systems is an ill-advised proposal.

[8/] In fact, the Commission explicitly recognizes at footnote 8 of the NPRM that planar array antennas can be designed to produce beam shapes that vary substantially from conventionally produced dish or horn antennas. Rather than encouraging the production and deployment of new antenna designs with advanced beam forming capabilities and increased spectral efficiency, requiring the use of a "default" antenna pattern for coordination purposes, as proposed in the NPRM, could discourage manufacturers from introducing products with improved sidelobe performance.

[9/] No request from any industry concern is cited by the Commission to substantiate the need for its proposal to truncate the prior coordination process, and NSMA is not aware of any party that has requested such relief.

IV. CONCLUSION

As discussed fully above, NSMA urges the Commission to adopt rules in this rulemaking that do not mandate discontinuation of the long-established practice of utilizing actual antenna-specific radiation patterns in fixed service microwave frequency coordination and application processing.

Respectfully submitted,

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